

WHAT IS CLAIMED IS:

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1. A coordinate input and detection device
comprising:

a touch panel including a surface;

a plurality of light emitting units

10 projecting light beams traveling parallel to the
surface of said touch panel over a predetermined
region of said touch panel, each of the light beams
being a parallel beam having a uniform thickness in a
direction perpendicular to the surface of said touch
15 panel and having a sector shape in a direction
parallel to the surface of said touch panel;

a reflective member provided on a peripheral
portion of said touch panel to reflect the light
beams toward first optical paths through which the
20 respective light beams travel to reach said
reflective member;

a plurality of intensity distribution
detection units receiving the respective light beams
reflected by said reflective member to detect
25 intensity distributions of the light beams;

a coordinate detection unit detecting a coordinate value of a position where the light beams are interrupted based on the intensity distributions; and

5 a plurality of filters disposed in respective second optical paths in directions perpendicular to directions in which the respective light beams travel, the second optical paths being optical paths through which the respective light
10 beams reflected by said reflective member travel to reach said respective intensity distribution detection units, said filters having transmission rates varying with respect to positions within said filters.

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2. The coordinate input and detection
20 device as claimed in claim 1, wherein each of said filter has wedge-like notches protruding from respective end portions thereof toward a center portion thereof in a direction perpendicular to a direction of the thickness of each of the light beams.

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3. The coordinate input and detection device as claimed in claim 1, wherein each of said filters is a combination of a plurality of filters having different transmission rates.

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4. The coordinate input and detection device as claimed in claim 1, wherein each of said filters is a combination of a plurality of filters having different shapes.

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5. The coordinate input and detection device as claimed in claim 1, wherein each of said filters is made of a resin film.

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6. The coordinate input and detection device as claimed in claim 1, wherein each of said

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filters is disposed in any position in each of the second optical paths to adjust an amount of light received by the light receiving surface.

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7. An information display and input apparatus comprising:

10 an information display unit including a display for displaying a variety of information; and
 a coordinate input and detection device,
 the device comprising:

 a touch panel including a surface, the touch
15 panel serving as the display of said information display unit;

 a plurality of light emitting units projecting light beams traveling parallel to the surface of said touch panel over a predetermined
20 region of said touch panel, each of the light beams being a parallel beam having a uniform thickness in a direction perpendicular to the surface of said touch panel and having a sector shape in a direction parallel to the surface of said touch panel;

25 a reflective member provided on a peripheral

portion of said touch panel to reflect the light beams toward first optical paths through which the light beams travel to reach said reflective member;

a plurality of intensity distribution

5 detection units receiving the respective light beams reflected by said reflective member to detect intensity distributions of the light beams;

a coordinate detection unit detecting a coordinate value of a position where the light beams are interrupted based on the intensity distributions;
10 and

a plurality of filters disposed in respective second optical paths in directions perpendicular to directions in which the respective
15 lights beams travel, the second optical paths being optical paths through which the respective light beams reflected by said reflective member travel to reach said respective intensity distribution detection units, said filters having transmission
20 rates varying with respect to positions within said filters.

8. An information display and input apparatus comprising:

an information display unit including a display for displaying a variety of information; and

5 a coordinate input and detection device, the device comprising:

a touch panel including a surface, the touch panel being made of a transparent material and placed on the display of said information display unit;

10 a plurality of light emitting units projecting light beams traveling parallel to the surface of said touch panel over a predetermined region of said touch panel, each of the light beams being a parallel beam having a uniform thickness in a
15 direction perpendicular to the surface of said touch panel and having a sector shape in a direction parallel to the surface of said touch panel;

a reflective member provided on a peripheral portion of said touch panel to reflect the light
20 beams toward first optical paths through which the light beams travel to reach said reflective member;

a plurality of intensity distribution detection units receiving the respective light beams reflected by said reflective member to detect
25 intensity distributions of the light beams;

a coordinate detection unit detecting a coordinate value of a position where the light beams are interrupted based on the intensity distributions; and

5 a plurality of filters disposed in respective second optical paths in directions perpendicular to directions in which the respective lights beams travel, the second optical paths being optical paths through which the respective light
10 beams reflected by said reflective member travel to reach said respective intensity distribution detection units, said filters having transmission rates varying with respect to positions within said filters.

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